



US06180395B1

(12) **United States Patent**  
Skiffington et al.

(10) **Patent No.:** US 6,180,395 B1  
(45) **Date of Patent:** \*Jan. 30, 2001

(54) **REAGENT CHAMBER FOR TEST APPARATUS AND TEST APPARATUS**(75) Inventors: **Richard Skiffington, Everett; Eliezer Zomer, Newton, both of MA (US)**(73) Assignee: **Charm Sciences, Inc., Malden, MA (US)**

(\*) Notice: Under 35 U.S.C. 154(b), the term of this patent shall be extended for 0 days.

This patent is subject to a terminal disclaimer.

(21) Appl. No.: **09/396,127**(22) Filed: **Sep. 14, 1999****Related U.S. Application Data**

(62) Continuation of application No. 09/093,433, filed on Jun. 8, 1998, now Pat. No. 5,965,453, which is a continuation of application No. 08/619,586, filed as application No. PCT/US96/00524 on Jan. 2, 1996, now Pat. No. 5,827,675.

(60) Provisional application No. 60/001,081, filed on Jul. 12, 1995, and provisional application No. 60/007,585, filed on Nov. 27, 1995.

(51) **Int. Cl.<sup>7</sup>** ..... C12M 1/30(52) **U.S. Cl.** ..... 435/287.6; 435/287.7; 435/288.2; 435/288.7; 435/810; 435/8(58) **Field of Search** ..... 435/8, 21, 29, 435/32, 34, 30, 39, 287.4, 287.6, 288.1, 288.2, 288.7, 307.1, 309.1, 808, 810; 422/58-61, 52; 600/572, 569, 584(56) **References Cited****U.S. PATENT DOCUMENTS**

- 3,776,220 \* 12/1973 Monaghan .  
4,312,950 \* 1/1982 Snyder et al. .  
4,409,988 \* 10/1983 Greenspan .  
4,707,450 \* 11/1987 Nason .  
4,749,655 \* 6/1988 Monthony .  
4,770,853 \* 9/1988 Bernstein .  
5,827,675 \* 10/1998 Skiffington et al. .  
5,965,453 \* 10/1999 Skiffington et al. .

**FOREIGN PATENT DOCUMENTS**

- 7-059555 \* 3/1995 (JP) .  
95/25948 \* 9/1995 (WO) .

\* cited by examiner

*Primary Examiner*—William H. Beisner*(74) Attorney, Agent, or Firm*—Richard P. Crowley**ABSTRACT**

A single use reagent chamber and a test apparatus for the detection of test samples, particularly by a chemiluminescent test. The chamber includes a cylinder sealed with probe-puncturable membranes into a sealed compartment with a reagent composition therein for the test used. The reagent chamber is used in a test unit of the test apparatus.

**23 Claims, 5 Drawing Sheets**